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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,309	06/27/2001	Peter D'Antonio	D'ANTONIO-15	1645
7590 05/19/2006				
H. JAY SPIEGEL P.O. BOX 444 Mount Vernon, VA 22121		EXAMINER MCCLLOUD, RENATA D		
		ART UNIT 2837		PAPER NUMBER
DATE MAILED: 05/19/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/891,309

Applicant(s)

D'ANTONIO ET AL.

Examiner

Renata McCloud

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12/19/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 7-12, 14, 15, 17-19 and 25-34 is/are pending in the application.
- 4a) Of the above claim(s) 30 and 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-8, 14, 15, 19, 25-29, 31, -33 is/are rejected.
- 7) ☒ Claim(s) 9-12, 17, 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. Newly submitted claims 30 and 34 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the claims are directed towards a method of making.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 30 and 34 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### *Claim Objections*

2. Claim 18 objected to because of the following informalities: the claim depends from claim 16.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 27-29 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 27 recites the limitation "said sets". There is insufficient antecedent basis for this limitation in the claim.

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Claim 28 recites the limitation "said well". There is insufficient antecedent basis for this limitation in the claim. Claim 26 refers to plural wells.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-8, 14,25-29,31-33 are rejected under 35 U.S.C. 102b as being anticipated by Fries (US 5422446).

**Claim 1:** Fries teaches a sound diffuser (e.g. Fig. 2; col. 4:53-56 teaches the device used as a sound diffuser) comprising a non-sound absorbing body having a front surface configured to diffuse some of the sound waves (Fig.2: 2) and a rear surface (Fig. 2:7); and means (Fig. 2: 8,9) permitting others of the sound waves to travel from the front surface to the rear surface through the body, the permitting means comprising a plurality of opening (8/9/4) including a first opening and a second smaller opening (col. 3:58-65) and sound absorbing means (Fig. 2: 11) on the rear surface (Fig. 2: 7) for absorbing sound waves.

**Claims 2,26:** the front surface includes a plurality of parallel wells (Fig. 1: 9).

**Claim 3:** the front surface (Fig. 2: 2) includes a 2-D pattern of geometrical shapes including rectangular (Col. 3:42-48).

**Claim 4:** the shapes (Fig. 2:2) are separated by holes or slots (Fig. 2: 5).

**Claim 5:** the permitting means (Fig. 2: 8,9) comprises holes or slots.

**Claim 7:** the permitting means comprises slots (Fig. 2: 9).

**Claim 8:** the openings comprise holes (Fig. 2: 9).

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**Claim 14:** the absorbing means is wool (Col. 3:66-68).

**Claim 25:** Fries teaches a sound diffuser (e.g. Fig. 2; col. 4:53-56 teaches the device used as a sound diffuser) comprising a non-sound absorbing body having a front surface configured to diffuse some of the sound waves (Fig. 2: 2) and a rear surface (Fig. 2: 7); and means (Fig. 2: 8,9) permitting others of the sound waves to travel from the front surface to the rear surface through the body, the permitting means comprising a plurality of generally rectangular openings (8/9/4; col. 3:40-48) and sound absorbing means (Fig. 2: 11) on the rear surface (Fig. 2: 7) for absorbing sound waves.

**Claim 27:** the holes are in rows (fig. 1; col. 3:40-56).

**Claim 28:** the holes are in wells (fig. 1:9; col. 3:58-65)

**Claim 29:** the holes are across a plurality of wells (Fig. 1; col. 3:58-65)

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fries (US 5422446) in view of H.F. Olson (US 2502016).

**Claims 15:** Fries teaches the limitations of claim 7. Referring to claim 15, Fries does not teach low frequency sound absorption. H.F. Olson teaches openings providing low frequency absorption (e.g. Col. 1:50-55, 3:14-17).

It would have been obvious to one having ordinary skill in the art at the time the invention was made use the apparatus taught by Fries for low frequency sound

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absorption as taught by H.F. Olson. The advantage of this would be an economic, low cost apparatus to absorb undesirable vibrations.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fries and H.F. Olson as applied to claim 1 above, in view of McGrath (U.S. Patent 6,015,026).

**Claim 19:** Fries teaches the limitations of claim 1. Referring to claim 19, Fries does not teach a crossover frequency below which sound is absorbed and above which diffusion takes place. McGrath teaches a crossover frequency below which sound is absorbed and above which diffusion takes place (e.g. Figure 24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Fries to include the teachings of McGrath. The advantage of this would be a cost efficient, easy to install acoustic diffuser that absorbs a wide range of low frequencies, and is reflective over a range of mid-range frequencies.

10. Claims 31-33 rejected under 35 U.S.C. 103(a) as being unpatentable over Fries in view of Hilliard et al(US 4111081)

**Claim 31:** Fries teaches a sound diffuser (e.g. Fig. 2; col. 4:53-56 teaches the device used as a sound diffuser) comprising a non-sound absorbing body having a front surface having a curved shaped (figs. 4-5, 21-24; Col. 4:3-11, col. 5:43-49) configured to diffuse some of the sound waves (Fig.2: 2) and a rear surface (Fig. 2:7); and means (Fig. 2: 8,9) permitting others of the sound waves to travel from the front surface to the rear surface through the body, the permitting means comprising a plurality of openings (8/9/4; col. 3:40-48) and sound absorbing means (Fig. 2: 11) on the rear surface (Fig. 2: 7) for absorbing sound waves. They do not teach the front surface having a compound

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curve shape. Hilliard et al teach a compound curved front surface (Fig. 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Fries to have a compound curved front surface as taught by Hilliard et al in order to attenuate sound that is moving over a varying velocity range and since it has been held that a change in shape or configuration is a matter of choice which a person of ordinary skill in the art would have found obvious *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) (see MPEP 2144.04).

**Claim 32:** Fries teaches the permitting means (Fig. 2: 8,9) comprises holes or slots.

**Claim 33:** Fries teaches the holes are in rows (fig. 1; col. 3:40-56).

#### ***Allowable Subject Matter***

11. Claims 9-12,17 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 18 would be allowable if rewritten to overcome the objection(s) set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 5:30 am - 2pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley can be reached on (571) 272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

rdm

Renata McCloud  
Examiner  
Art Unit 2837

  
MARLON T. FLETCHER  
PRIMARY EXAMINER